

## CLAIMS

What is claimed is:

- 5 1 A forecasting process comprising:  
running an information market;  
extracting participant characteristics;  
performing a query process; and  
aggregating results of said query process with adjustments for  
10 participant characteristics.
- 2 A forecasting process of Claim 1 wherein said information market is  
designed to elicit characteristics of participants.
- 15 3 A forecasting process of Claim 2 wherein said characteristics include  
participant risk inclination.
- 4 A forecasting process of Claim 2 wherein said characteristics include  
participants ability to analyze information provided in said information  
20 market.
- 5 A forecasting process of Claim 2 further comprising correlating  
observed behavior to accepted characteristic tendencies.

6 A forecasting process of Claim 2 wherein said information market  
includes an artificial market financial instrument corresponding to a real  
world state..

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7 A forecasting process of Claim 1 wherein the results of the query  
process are aggregated by revising apriori probabilities with reports provided  
by participants and conditioning the reports by the characteristics of the  
participants..

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8 A forecasting process of Claim 1 wherein the results of the query  
process are aggregated by utilizing Bayes formula with each probability of the  
potential outcome assigned by a participant modified by an exponential factor  
to condition the probability for adjustments associated each participant's  
15 characteristics

9 A computer system comprising:  
a memory for storing instructions on implementing a forecasting  
method; and

20 a processor that executes said the instructions on implementing a  
forecasting method, including:

running an information market;  
extracting participant characteristics;

performing a query process; and  
aggregating results of said query process with adjustments for  
participant characteristics.

5 10 A computer system of claim 9 wherein said processor and memory are  
communicatively coupled to the Internet and participants interact with said  
forecasting computer system via the Internet.

11. A computer system of claim 9 wherein running said information  
10 market comprises:  
organizing participants;  
creating a financial instrument; and  
establishing a mechanism for permitting participants to indicate their  
predictions.

15 12. The computer system of Claim 9 wherein possible information market  
states are associated with an Arrow-Debreu state security.

13. The computer system of Claim 9 wherein said information market  
20 artificial instruments correspond to the occurrence of a real world state.

14. The computer system of Claim 11 wherein said information market  
comprises an artificial call market in which securities are traded.

15. The computer system of Claim 14 wherein running said information market further comprises:

gathering the bids and asks at the end of a call round;

5 determining a market price and volume;

completing transactions; and

beginning another call round.

16. A new environment aggregation function analysis process comprising:

10 implementing an experimental information market;

developing a new predictive aggregation formula with adjustments for personal characteristics;

creating a benchmark;

defining a measure to compare probabilities provided by different

15 aggregation mechanisms to said benchmark; and

comparing aggregation mechanisms to said bench mark.

17. A new environment aggregation function analysis process of claim 16

wherein said new predictive aggregation formula is utilized in a forecasting

20 process.

18. A new environment aggregation function analysis process of claim 16 wherein said new predictive aggregation formula is theoretical predictive aggregation formula with an adjustment for participant characteristics..
- 5 19. A new environment aggregation function analysis process of claim 18 wherein said adjustment includes an individual participant predictions with exponential factoring for characteristics of the individual participants and the information market as a whole. .
- 10 20. A new environment aggregation function analysis process of claim 17 wherein three information aggregation mechanisms are compared to the benchmark distribution given by Equation by using the Kullback-Leibler measure, said three information aggregation mechanisms include a no information prediction, the predictions of the best individual and a non-  
15 linear aggregation measure.